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THE
Philosophy of Epispastics;

AN INAUGURAL THESIS:

SUBMITTED TO THE CONSIDERATION OF THE

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OF THE

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 OF BALTIMORE.

"Miseris succurrere disco."

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PHILOSOPHY OF EPISPASTICS.

IN an inquiry into the origin of the arts and sciences among mankind in the early ages of human society, the light reflected from authentic history affords us but little assistance. We are principally left to inference and conjecture to account for the manner in which they took their rise. Could we remove the veil which envelopes antiquity in so much obscurity, it is highly probable we should perceive them taking their rise principally from accident, and slowly proceeding with short and protracted steps, led on by strangely contingent circumstances, occurring at very distant intervals of time. On the origin and progress of medical science, a writer of notoriety expresses himself thus: "The invention of remedies amongst the rudest people, may in a great measure be accounted for, from the instincts arising in certain diseases; from the observation of spontaneous cures effected by the powers of the animal economy; from accidental errors in the choice of aliment; and even from those random trials to which pain and uneasiness often lead." These remarks seem to be particularly applicable to the remedy which is to be the particular subject of

of this essay. As it relates to the use of Epispastics in the cure of local diseases, it is scarcely possible to doubt, that it was owing to some accidental coincidence.

We have reason to believe that Epispastics as remedies in diseases, are of very ancient origin. They are spoken of in the earliest records of medicine as having been in use from the most remote periods. There are but few medicines used by the most ancient practitioners which we are at present able certainly to identify, "for if we reflect in how many instances the nomenclature is intirely unknown, and in how many it is very doubtful and uncertain, we shall be satisfied how idle it is for us to appeal to the authority of the first writers for the virtues of almost any medicine. Indeed there can be no just grounds for supposing that in those early times much discernment in the *Materia Medica* could have prevailed, and even although the substances used by them were known to us with more certainty than they are, yet the distinction of diseases and their circumstances are so seldom given, that at present we can hardly be guided by them in the employment of any of the medicines they suggest." But as it relates to Epispastics these objections are not valid. They are remedies of such a peculiar and strongly marked character, that there is scarcely any thing that relates to them, in any degree equivocal. From this character we are made acquainted with a remarkable fact, that amid the changes and revolutions which medicine has undergone in the different periods of its pro-

gress, the employment of Epispastics has sustained no cessation; whilst all other remedies have been doomed to continual changes—to become the favourites of to-day, and to-morrow become rejected and despised—whatsoever system may have prevailed—Epispastics still maintained their ground—still supported a respectful consideration, and have in all ages been had recourse to by all.

It is probable it was not long after the discovery of remedies before men began to reason relative to the mode of their operation. It no doubt became a previous question with them, in what manner it was that diseases affected the human system; and for this purpose pathological inquiries must have been instituted. It was necessary to settle the latter question before they could determine the former. And *this* in all cases, would necessarily be made to quadrate with *that*. It is strikingly remarked by a physician and philosopher, that all analytical disquisitions on the *modus operandi* of causes producing diseases in the animal body were illusory, and perhaps will continue to be *unproductive of conviction*, or satisfaction, at least until the principles of life shall be more fully ascertained. It must be certain, therefore, that in those early times, pathological doctrines were in a peculiar degree unproductive of lasting conviction and satisfaction—reasonings and conclusions must have been vain and illusory, and systems formed on the basis of but few facts, must have been of a very deciduous character. And such is the fact, system followed sys-

tem, like the succession of the seasons, and every one possessed of a sprightly and inventive fancy, and who could furnish himself with a new fact, built up for himself a new fabric, which cast its tremulous shadow across the path of science for a day, when it was doomed to give place to some other, which was equally evanescent.

The philosophy of the operation of remedies partook of all these changes. Many medicines which had been in use from time immemorial, were rejected because their operation could not be explained upon the principles of the prevailing doctrines, and others were substituted, the *rational* of whose effects were supposed to be more within the scope of comprehension. The utility of Epispastics, however, as before observed, were not at any period disputed—every one continued to employ them in their practice, but each explained their *modus operandi* according to his own peculiar notions of pathology.

The first of these which I shall notice, being the first in the order of time, is that of Hippocrates. He conceived there was an active, subtile principle, a kind of autocrateia, which presided over the functions of the animal; and that it had established for its operations a kind of circular rout, by the medium of which it conveyed to the various points of the body life and sensation; he therefore conceived that local diseases were occasioned by nothing more than certain obstacles collecting together in one part, and interposing themselves in the way of the little agents of this autocrateia, and preventing them from doing their bu-

siness properly. Hence, in order to effect a cure it was necessary to remove the obstructions out of the way, or to drive and scatter them throughout every part of the body, so that full play might be again given to their proper operation. The effects of Epaspastics therefore was easily explained as answering exactly this purpose.

This doctrine is set forth in a very full and comprehensive manner, by a very ingenious writer, in an essay on Epispastics. And as it sets forth several other opinions on the subject, curious to be known; and also, as it will be an example in itself of how much labour and ingenuity philosophers of the ancient school have expended on curious speculations. I shall quote it at length:

“Il est tems maintenant de proposer quelques réflexions sur l'action et les effets des *vésicatoires*, qui éclaircissent plus immédiatement les principaux phénomènes pratiques de cette médecine. Nous choisirons pour cet effet les ouvrages d'Hippocrate, et ceux de quelques autres médecins qui l'ont suivi dans ses principes et dans sa pratique, comme les plus propres à fournir les lumières les plus pures et les plus étendues sur cette matière. Ainsi donc, après avoir déjà parlé du goût de ce père de la médecine pour les épispastiques, il nous paroît à propos d'ajouter qu'il ne faudroit pas croire que toutes les connoissances qu'il avoit acquises sur l'administration des remèdes, il les tint uniquement d'un empirisme froid et borné; mais qu'il les devoit encore aux élans d'une génie vraiment philosophique, rectifiés par tout ce que peuvent donner de sagacité une expérience consommée et l'habitude de méditer

profondément sur la nature. Voici, par exemple, une des maximes de ce grand homme, la plus capable de nous découvrir le point d'où il est parti, et de nous faire pénétrer ultérieurement dans ses vues. Il dit, en parlant du traitement des maladies de la poitrine: que lorsque la maladie est fixée dans un organe, il convient, pour l'amener à guérison, de la répandre dans toutes les parties du corps; soit par les remèdes internes, soit par l'application des *épispastiques*.

“Cette intention de généraliser la maladie, d'en affaiblir le foyer en l'étendant ou le distribuant sur tous les organes, est peut-être le plus beau canon pratique de la médecine. Le grand point est de savior la manière dont Hippocrate concevoit cette distribution: il est clair qu'il étoit en cela inspiré par tout ce qu'il connoissoit des propriétés de l'intelligence active et subtile qui préside aux fonctions de l'animal, et qu'il appelloit *nature* ou *principe*, et par tout ce qui lui revenoit de son expérience journalière. Il savoit d'abord, que cette intelligence s'étoit originairement tracé dans le corps un cercle d'opérations, dans lequel elle se mouvoit, en portant sur tous les points du cercle le sentiment et la vie, et jetant des filets de communication dans les intervalles d'un point à l'autre; ensorte que la maladie pouvoit être regardée comme un obstacle, un nœud qui arrêtoit ce période d'opérations, et qu'il n'étoit question pour le rétablir, que de rappeler le *principe* sur tous les points de la sphere. Or, c'est ce qu'on obtient toutes les fois que l'activité ou les forces du *principe* augmentez assez pour vaincre ou résoudre l'obstacle. Mais en quoi consiste cette augmentation des forces de la nature? Dans la fièvre. C'est ainsi que, suivant notre auteur, et l'observation de tous les siècles, la fièvre résout le spasme; ainsi la douleur, qui n'est peut-être qu'un spasme plus ramassé ou plus concentré, est détruite par le même

agent. Maintenant la fièvre peut être ou *spontanée* ou *artificielle*; la première doit être entièrement sur le compte de la nature, ou de son *autocratie*; le seconde est un produit de l'art. Cet art, Hippocrate né pour le former, en varioit à l'infini les ressources, au moyen des deux *épispastiques* universels; savoir, la *douleur* et la *chaleur*. Il avoit remaqué que le plus souvent là où il y a douleur, il y a maladie; et qu'une douleur plus forte l'emportoit sur une moindre; et que la douleur attiroit et fixoit la maladie sur l'endroit douloureux: 'car, dit-il. si avant que la maladie soit déclarée on a senti de la douleur dans une partie, c'est là même que la maladie se fixera.' Il croyoit donc que la douleur disposoit la partie à appeler et à se charger de la maladie; par conséquent qu'une douleur produite par art, plus vive que la naturelle, en diminuant ou anéantissant celle-ci, étoit capable de faire tout au moins une diversion salutaire, un déplacement de la maladie, laquelle, chemin faisant, s'il est permis d'ainsi parler, pouvoit encore être altérée ça et là par les différens organes, et devenir par ce moyen générale. A l'égard de la chaleur il avoit également éprouvé que la chaleur attire. Il savoit que la chaleur, portée à un certain degré produisoit la douleur, et aussi qu'il attire les humeurs, qu'il expliquoit par l'énergie et la mobilité du *grand principe*, qui se porte d'une extrémité du corps à l'autre extrémité. D'un autre côté, il étoit le témoin infatigable des guérisons imprévues qu'opéroit la nature par des éruptions cutanées, des parotides, des ulcères actuellement suppurans, &c. C'étoit donc par une analogie toute simple qu'Hippocrate étoit conduit à employer les dolorifiques et les échauffans externes, pour réveiller ou pour rappeler la nature lorsqu'elle s'engourdissoit, ou qu'elle ne pouvoit plus suffire à elle-même.

“Tel est à peu près le plan général de la conduite

d'Hippocrate dans l'usage des *vésicatoires*, qu'il ne faut jamais perdre de vue dans l'estimation rationnelle de ces remèdes. Ainsi donc, en résumant ce qui vient d'être dit, il est un principe qui anime le corps. Les épispastiques sont deux : savoir, la *douleur* et la *chaleur*; ils sont universels et absolus; la douleur se décompose en faveur de l'art en une infinité d'intermédiaires, qui peuvent être autant d'épispastiques, depuis la douleur positive ou absolue, jusqu'au sentiment le plus voisin du plaisir. L'art trouve les mêmes ressources dans la chaleur, dont les nuances, depuis la plus légère fièvre jusqu'au feu destructif, forment une série des mêmes remèdes. La douleur et la chaleur sont des modifications du *grand principe*, qui a son siège dans les nerfs, dont il est l'élément sensitif, comme les autres particules de matière en sont les éléments physiques. La douleur et la chaleur se produisent et se détruisent mutuellement. Les *vésicatoires* ne sont que les agens excitatifs du *grand principe*; car la cause efficiente de la chaleur et de la douleur est en nous, comme le sentiment des couleurs est en nous. Au moyen de cette vertu communicative, l'action de la chaleur et de la douleur peut s'étendre d'un point de la surface du corps à toute le *grand principe*, comme l'embrasement peut arriver à toute une masse combustible par une étincelle. C'est encore une fois sous cet assemblage d'idées sublimes qu'on peut se représenter le génie d'Hippocrate, occupé de la médecine épispastique, en dirigeant toutes les branches, et en mouvant tous les ressorts. Maintenant, avec l'avance de ces préceptes élémentaires, il est bien facile de concevoir que l'action des *vésicatoires* sur les corps consiste à exciter la fièvre au moyen de ce *principe*, qui n'est autre chose que la sensibilité et la mobilité des nerfs.

Lorsqu'on applique un épispastique sur une partie, son effet sensible est d'en augmenter les oscillations nerveuses qui, si elles sont poussées trop loin, produi-

roit la fièvre, accéléreront le mouvement des liqueurs et les entraîneront suivant les déterminations de la nature, ou celles de l'art, s'il est plus fort qu'elle. Pour avoir une idée de ces déterminations, il faut les considérer dans l'état naturel, se portant alternativement du centre du corps à la circonférence et de la circonférence au centre. au moyen de l'antagonisme de la peau avec les organes internes, et roulant suivant les mêmes directions les divers sucs contenus entre cette circonférence et le centre, dont elles jettent au-dehors une partie sous la forme de sueur et de transpiration. Ces déterminations ont été appelées par quelques auteurs *forces centripètes*, et *forces centrifuges*. Augmentez la puissance dans un des *antagonistes*, dans la peau, par exemple, et les déterminations seront vers la peau: il en arrivera de même en ne l'augmentant que dans la plus petite surface possible de cet organe externe; car chaque fibrille nerveuse étant dans une oscillation continuelle. elle est susceptible par l'augmentation de son oscillation et de sa sensibilité particulière, de devenir un point fébrile. Ce point s'aggrandissant de plus en plus, formera un centre fiévreux, avec *érection* des nerfs et des vaisseaux de la partie, d'où partiront des espèces de courans qui gagneront tout le corps, et se rapporteront continuellement à ce centre comme à une source d'action et de force, en y entraînant avec eux une partie des humeurs détournées des autres organes: ce qui occasionnera une espèce de pléthore locale, et en conséquence l'élévation ou tumeur de la partie. Cette manière d'expliquer ainsi par l'action vitale la formation de pareilles tumeurs, est autorisée par une observation que tout le monde peut faire; c'est que les tumeurs inflammatoires s'affaissent après la mort, et que si l'on fait une incision à la partie qui étoit tumeur dans le vivant, on la trouve farcie et engorgée d'une quantité excessive de sang, par com-

paraison, avec les autres parties, quoi-qu'elle fût avant l'ouverture au même niveau. Ces phénomènes sont quelquefois produits *sponte* dans un organe intérieur, qui, dès ce moment, doit être regardé comme converti en une espèce de ventouse. L'abord du sang dans cet organe peut en rendre les vaisseaux variqueux, et avoir mille autres suites funestes. Dans ce cas, lorsqu'on applique immédiatement sur la partie, ou tout auprès, certains *vésicatoires*, tels que scarifications, les setons, &c. on obtient une dérivation immédiate des humeurs qui engorgeoient la partie. Ainsi, dans les violens maux de tête, les anciens saignoient quelque-fois très-utilement à la vaine du front, aux veines de derrière l'oreille, dans les vertiges, aux ranines dans certains maux de gorge, &c. ce qui revient à nos setons, scarifications, &c."

Dictionnaire des Sciences.

Themison the founder of the sect of methodics had his peculiar notions of pathology. He conceived diseases to depend on certain conditions of the animal fibre, or constitution in general, which he denominated *strictum et laxum*. He applied epispastics in both conditions, in the one case to relax, and in the other to brace up.

By some their good effects were conceived to depend on the ingress of the particles, of which the epispastics were composed, into the blood. By others on the quantity of hot, sharp, and salt lymph discharged. By others on the condensation of the blood and stoppage of its rarefaction, whereby the spirits were disposed to be plentifully separated.

Another who has written expressly on the subject, very ingeniously overthrows all previous sys-

tems, and accounts in his turn for their effects, by the epispatics wounding the nerves or canals, whereby the spirits are conveyed to the heart.

A succeeding writer states his theory in the following terms. The subtle hot active salts, contained in the epispatics are strongly attracted by the serum, and carried with it through the several glands and secretory ducts of the body, where they act by dissolving, attenuating and rarefying the viscid cohesion of the lymph and serum, and stimulating the nervous coats of the vessels, whereby they are induced to throw off their stagnating viscidities, and restore the free drain of the lymph from the arteries to the veins, and at the same time by scouring and cleansing the expurgatory glands, bring on critical sweats and urine.

The notions of the celebrated Cullen, on this subject are contained in the sections of his "First Lines;" which, in order to bring the various opinions into one view, I shall quote—"What are the effects of blistering, is not yet agreed upon among physicians; and many different opinions have been maintained on this subject, drawn not only from reasoning but also from presumed experience. I am persuaded, that the small quantity of cantharides absorbed from a blistering plaster, is not sufficient to change the consistence of the mass of blood; and therefore that such a quantity can neither do good by resolving phlogistic lentor, if it exists; nor do harm, by increasing the dissolution of the blood, arising from a putrid tendency in it. I therefore neglect entirely the effect of cantharides upon the fluids.

“The inflammation produced by the application of cantharides to the skin, affords a certain proof of their stimulant power; but in many persons, the effects of that stimulus is not considerable; in many it is not communicated to the whole system; and even when this effect does take place in the whole system, it seems to be taken off entirely, by the effusion and evacuation of serum from the blistered part. I conclude, therefore, that neither much good is to be expected, nor much harm to be apprehended, from the stimulant power of blistering; and the certainty of this conclusion is established by the great benefit arising from the proper practice of blistering, in inflammatory diseases.

“Much has been imputed to the evacuation occasioned by blistering; but it is never so considerable as to effect the whole system; and therefore can neither by sudden depletion, relax the sanguiferous vessels, nor by any revulsion, affect the general distribution of the fluids.—The evacuation, however, is so considerable as to effect the neighbouring vessels; and the manifest utility of blistering near the part affected, in inflammatory diseases, leads me to believe, that blistering by deriving to the skin and producing an effusion there relaxes the spasm of the deeper seated vessels.”

The last opinion which has been published on this subject, is that of Dr. Murray, and is in the following words:

“The advantages to be derived from epispastics in the treatment of diseases, is to be ascribed to

their strong stimulating power, and the pain they excite. It is a principle sufficiently established with regard to the living system, that where a morbid action exists, it may often be removed by inducing an action of a different kind, in the same or in a neighbouring part. On this principle is explained the utility of blisters, in local inflammation, and spasmodic action.

“A similar principle exists with respect to pain; exciting one pain often relieves another.”

By thus quoting the various opinions of authors at such considerable length, I am entirely relieved from the necessity of refuting any one of their doctrines, as they will be found by comparison to be so completely opposed to each other, as to preclude the possibility of any one of them, obtaining in the field of modern science, the least ground to stand upon. In the last quotation indeed, Dr. Murray speaks of the stimulant effects of blisters, but it is in a perfectly vague and indefinite manner, and leaves us to suppose he meant to refer to some such unmeaning principles, as counter irritation, revulsion, &c. which have of late been very much talked about. And as to his morbid action, counteracting morbid action, and one pain overcoming another, it is going all the way back to the days of Hippocrates, whose opinions are so fully detailed above.

The change which has been recently made in the doctrine of inflammation, suggested by the genius of Allen, and demonstrated, and published to the world by Wilson, promises to be of a character more lasting, and more extensively useful,

than any thing which has preceded in the science of medicine. It seems almost entirely to remove us from the sphere of hypothesis and speculation, and place us on the firm unperishable basis of fact and experiment. This doctrine, as enlarged and extended in its application, by the late professor of the institutes, the present professor of anatomy in this university, leaves us very little to expect, or even to wish for, in order satisfactorily to explain the nature of a very extensive catalogue of diseases. It opens the way also to the direct explanation of the *modus operandi*, of the various remedies, which we employ in the cure of those diseases—and particularly of the philosophy of the operation of epispastics, which I shall proceed immediately to examine.

It will be quite unnecessary, for me to go into a lengthened detail of this doctrine, as the outlines are already given to the public, in the very valuable works of the author above named. It will only be necessary in order to bring the subject immediately before us, to state a proposition or two.

In all cases of local inflammation, according to this theory, the strength of the small vessels has become diminished—their tone and energy have become weakened, or in other words, the life of the part has become injured; which takes place, either by a disproportionate expenditure, of sensorial energy, (or that principle upon which the phenomena of life depends) in consequence of some violently irritating substances, applied immediately to the part, or from a want of a due

proportion of this principle being distributed to it. This therefore being understood, the indication of cure is entirely plain. Our object will be to cause a renewal of the diminished life of the part, to take place—in other words, to restore the energy and tone, of the weakened and debilitated vessels, by supplying them with a fresh quantity of sensorial power, in order that an equilibrium in strength and power of resistance, may be established and maintained between every part of the general system, in which alone perfect health consists. This indication is fulfilled by the application of certain substances, which have the effect of stimulating the nervous system, by strongly irritating the parts to which they are applied.—Those substances are various in their degrees of power, and we must take care in all cases, to graduate the degree of stimulation, so as to quadrate with the degree and peculiar nature of the disease. These substances when applied to the diseased part, act on the irritability of the coats of the weakened vessels, cause them to contract and gather up, and by exciting the nervous system, they are again furnished with their wonted tone and vigour, and thus enabled to renew their ordinary and healthy functions.

When the disease takes place in an external part, where the remedies may be applied immediately to the weakened vessels, this doctrine must be attended with every necessary degree of conviction. It is so plain, and follows by such direct inference, that it is entirely unnecessary to dwell at any length on the subject, or attempt to

prove it by any reasoning whatever. The simple proposition I conceive to be self-evident.

But when the disease fixes itself upon some internal part, where no application can be directly made, how, it may be asked, will the doctrine maintain its ground? how is the indication fulfilled, according to the same principles; in a case of pneumonia for instance, when the application of epispastics to the external surface, and at some distance from the inflamed membrane, succeeds in removing the disease? It is circumstances of this kind which have so long puzzled physicians and physiologists. It has afforded them a fine theme for the exercise of ingenious hypothesis, and for the employment of a host of unintelligible and unmeaning terms—such as counter-irritation, centripetal and centrifugal motions, revulsions, metastasis, determination, and many more such. Dr. Cullen has indulged in a curious speculation on this subject, in section 193. First lines.

“The manifest utility of blistering near the affected part in inflammatory diseases, leads me to believe, that blistering, by deriving to the skin, and producing an effusion there, relaxes the spasm of the deeper seated vessels.” I apprehend it to be in this manner, that the tumour of a joint, from an effusion into the cellular texture under the skin, takes off the rheumatic pain affecting that joint.”

The enquiries of an ingenious writer, who has already been referred to in a former part of this essay; though not made with any intention of illustrating this subject, will serve to explain very

clearly the manner in which the effect takes place: I shall make the quotation at length. In enquiring into the cause of, and the manner how, the different parts of the body sympathizes with each other; he observes—"We have all perceived that the sensation arising from a pretty strong impression, is not confined to the very spot to which the injury is applied; but is felt at the same time, in surrounding parts."

"It is also a fact, that the more sensible any of the surrounding parts is, the more in general, it partakes of the sensations. Thus in a person labouring under a stone in the bladder, the whole hypogastric region is pained. But the end of the urethra, glans penis, and testicles; parts endowed with keen feelings, partake more of the sensation than any other."

"By how many injuries applied to distant parts is the stomach affected, which is perhaps the most sensible part of the system? Inflamed sores, where there is a morbid degree of sensibility, are excellent examples of the same thing. If any part near such a sore be injured, the pain is felt more acutely on the sore, than in the other neighbouring parts."

"But it is likewise a fact, that when any of the parts in the neighbourhood of that, on which the impression is made, is a part of very acute feeling, while the injured part itself is one of comparatively dull feeling, the sensation excited in the former, is often more intense than that excited in the latter."

"We have instances of this in both the cases

just stated: the pain excited in the sore, is often more acute than that excited in the injured part, in its neighbourhood: and that excited in the urethra, glans penis, and testicle, than the pain felt in the region of the bladder. When this takes place, as we attend to the stronger impression, and neglect the weaker, the former only is felt."

"In all such cases, we refer the sensation from a less to a more sensible part; yet it is not at all times wholly confined to the latter; for when we attend particularly to the seat of the impression, we generally feel a sensation there; as well as in the more sensible distant part; but one so faint that it is overlooked, while the stronger sensation is present, except we endeavour to perceive it."

"Upon the whole, then, we find, that the sensation is not always confined to the part on which the impression is made; that it is felt in surrounding parts, with various degrees of intensity, generally proportioned to their degrees of sensibility; and that it is sometimes more acute, in the more sensible neighbouring parts, than in that to which the injury is applied."

These observations being drawn from nature, carry their own evidence with them, and there can be nothing more easy than for any one to make the application of the general principles to any particular case. Inflamed parts being uniformly possessed of a greater degree of sensibility than parts not inflamed; they will of course be more strongly excited, by the application of irritating substances to the neighbouring parts—and will

be more highly stimulated from any causes that may effect the common sensorium.

THE effects of epispastics have been contemplated under two divisions, namely, local and general. To the former of these, I have thus far confined chiefly my attention. In relation to their general effects, besides that of their affording a powerful stimulus to the whole system, and increasing the vigour of the circulation, which renders them highly valuable as a remedy in low, typhoid cases to rouse from that lethargy and stupidity, incident to such cases, they are found to be highly serviceable in continued fevers, by greatly facilitating the termination, and hastening on a favourable crisis. Their operation in these cases may be explained on the same principles, as before referred to.

In all febrile affections, properly so called, it is understood that there is a great disability of the vessels of the surface; they are unable to perform the function of the perspiration properly. It is of great importance that this function should be properly performed, as it is the principal mean which nature has appointed for the elimination of the excrementitious heat of the body. When the function of perspiration therefore is interrupted, the heat becomes accumulated in the body, and whether this is a primary or secondary cause of the disease, (which is not my business now to examine,) it certainly becomes of primary importance to have it removed. This can be effectually done in no other way than by restoring the func-

tion of perspiration. This indication is fulfilled by the application of such stimulant materials, as will have the effect of imparting tone and energy to the cutaneous capillaries, and thus enable them to take upon themselves the due performance of the operation, which they were destined to carry on.

The class of epispastics, supply us with those stimulant materials, which are found to accomplish the desired end.

It may be objected here, that as epispastics are only applied locally, and to but a small surface at once, how can this effect the surface generally?—To explain this, we must bring into our assistance another general law of the animal economy. The surface of the body is perfectly continuous from one extremity to the other, it is perfectly similar in its structure, and similar in its functions—and it is universally found, that whatever affects one part, affects more or less in a similar manner the whole. This is a law familiar to every one, and it is unnecessary to enumerate instances in proof.

It remains for me to say a few words respecting the *blistering point*, a term used by several writers; and which they have borrowed from the scale of a thermometer. From the term, we might be led to conclude they meant to imply, that there was but one peculiarly and nicely defined condition of the human constitution, unvarying as are the freezing and boiling points of a thermometer, in which it would be proper to apply epispastics. Their meaning, or at least the only meaning that can be applied to the term, is, that there are certain conditions of the constitution in which, on the

one hand, epispastics would be injurious, and on the other, where they could be attended with an advantage. The former case, is where a considerable phlogistic diathesis prevails. In this condition the heart is already too strongly irritated, by a redundant quantity of stimulus. The latter case is, where the powers of life are so far exhausted, as to be quite without the reach of all restorative remedies. A general rule is here to be derived of very great importance in the practice of medicine. Whenever the phlogistic diathesis prevails, it will be necessary that the antiphlogistic remedies should be first had recourse to;—and a proper quantity of the redundant stimulus, and particularly of that applied directly to the highly irritated heart, namely, the blood, should be abstracted, otherwise the general stimulant and irritant effects of epispastics, would serve but to greatly aggravate the general commotion.

The cautious and excellent Cullen, communicates a valuable rule, in the 195th section of first line: “It appears to me that blistering may be employed at any period of continued fevers; but that it will be of most advantage, in the advanced state of such fevers, when the reaction being weaker, all ambiguity from the stimulant power of blistering is removed, and when it may best concur with other circumstances, tending to a final solution of the spasm.”

This essay might be greatly lengthened, and the propositions it contains might admit of considerable amplification. I might go on to enumerate the various articles belonging to this class of remedies.

and go into an inquiry relative to the various diseases and cases of diseases, in which it would be most proper to employ them. But if I have been so fortunate, as to state the propositions in language sufficiently perspicuous, to illustrate the general principle, I have accomplished my utmost expectations. For those who are really physicians, this is enough. The professional character who has talents, and who is at the pains to search to the foundation of things, in order to get at and understand general principles, will never be at a loss, to make the proper application of them to any given particular case, and it is to such, to the philosopher alone, I dedicate this dissertation.

If any one should perceive something novel in the prospect, which is attempted to be exhibited in this crude sketch, and ask did it originate with me? I answer no! It was lighted up by rays which ^{sent}illated from a rich source of light, whose wide diffusive lustre has irradiated many dark points which have rested upon the extensive region of physical science. The structure was built up from a few scattering fragments gathered from a well stored magazine, which has afforded materials for the erection of many a substantial building. For the access to this luminous fountain, this ample depository of genius and learning with which I have been indulged, I feel constrained in this place to acknowledge the high sense of obligation I am placed under. But in making acknowledgments of obligations, by which I feel myself bound, it would be invidious to con-

fine myself to any individual of the professors of this university. To all of them I am indebted for many and great favours; and to several of them for acts of generosity, which my pride could never have indured, had it not been for the nobleness with which those acts were exercised. In this however, I do not stand alone. The general conduct observed by the professors towards the gentlemen of their different classes, has conciliated the lasting esteem and sincere respect of all. Such manners united to such talents as they individually possess, it requires no spirit of prophecy to predict, cannot fail of securing success to the university, and to themselves the most happy rewards. For myself, I have nothing to return them but thanks. I am conscious however, of possessing a memory which retains the recollection of favours, as indelibly as leaves of brass engravings made upon them; and a heart sensitively alive to the emotions of gratitude: and the "sweet singer of Albion" says, that

"a grateful heart
By owing owes not, but still pays, at once
Indebted and discharged."

THE END.

Book taken apart. Leaves
deacidified with magnesium
bicarbonate. All leaves
supported with lens tissue.
Resewed on linen cords. New
all-rag end paper signatures.
Unbleached linen hinges.
Rebound in quarter unbleach-
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